

REMARKS

In connection with Applicants' Request for Continued Examination (RCE), Applicants respectfully request entry of the foregoing and reexamination and reconsideration of the subject matter identified in caption, pursuant to and consistent with 37 C.F.R. §1.114, and in light of the remarks which follow.

Claims 15 and 20-35 are pending in this application.

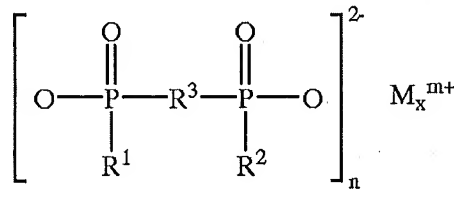
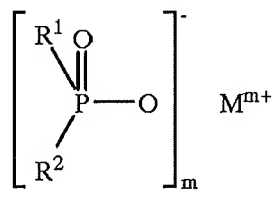
35 U.S.C. §103(a) Obviousness Rejection

1. Claims 15, 20-26 and 30-35 have been rejected under 35 U.S.C. §103(a) as unpatentable over Schlosser et al. (US 6,255,371) in view of Yakabe et al. (US 2002/0151625).

Applicants respectfully submit that these claims are not obvious over Schlosser in view of Yakabe and that these claims are allowable.

To establish a *prima facie* case of obviousness, three basic criteria must be met. (MPEP 2143) First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

Schlosser relates to a flame retardant composition comprising (A) a phosphinate of formula (I) or a diphosphinate of formula (II)



and (B) condensation products of melamine and/or reaction products of melamine with phosphoric acid and/or reaction products of condensation products of melamine with phosphoric acid and/or comprising a mixture of these. Schlosser teaches throughout the patent that the combinations are synergistic. (see for example col. 1, line 16 and 24, col. 2, lines 7 and 22) Schlosser teaches

Component B is preferably condensation products of melamine, where the condensation products of melamine are preferably melem, melam, melon and/or more highly condensed compounds thereof,

or [C]omponent B is preferably reaction products of melamine with phosphoric acid and/or reaction products of condensation products of melamine with phosphoric acid or a mixture of these, where the reaction products are preferably dimelamine pyrophosphate, melamine polyphosphate, melem polyphosphate, melam polyphosphate and/or mixed polysalts of this type.

Component B is particularly preferably melamine polyphosphates having chain lengths >2 , in particular >10 . (col. 2, lines 48-65)

One of ordinary skill in the art would recognize that Schlosser does not teach that component B is a mixture of (1) condensation products of melamine and (2) reaction products of melamine with phosphoric acid and/or reaction products of condensation products of melamine with phosphoric acid or a mixture of these. The term mixture of these refers to mixture of the components in (2), not a mixture of (1) and (2). Schlosser also provides information regarding the amounts of these compounds in the composition.

For the abovementioned use it is preferable for each of the components A and B, independently of one another, to be used at a concentration of from 1 to 30% by weight, based on the plastic molding composition.

For the abovementioned use it is preferable for each of the components A and B, independently of one another, to be used at a concentration of from 3 to 20% by weight, based on the plastic molding composition.

For the abovementioned use it is preferable for each of the components A and B, independently of one another, to be used at a concentration of from 3 to 15% by weight, based on the plastic molding composition. (col. 3, lines 18-29)

The Office Action acknowledges that Schlosser does not disclose amounts of the melamine reaction products.

Yakabe relates to a flame retardant reinforced polyamide resin composition comprising (a) 30-70% by weight of a half-aromatic polyamide resin having a hexamethylene adipamide unit and a hexamethylene isophthalamide unit, (b) 10-38% by weight of a melamine polyphosphate and (c) 5-50% by weight of an inorganic reinforcing material.

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. One of ordinary skill in the art, upon reading Schlosser and Yakabe, would not be motivated to use one compound (F2) which is a reaction product between phosphoric acid and melamine and/or a reaction product between phosphoric acid and a melamine condensation derivative; and one compound (F3) which is a melamine condensation derivative, as required by the instant claims. There is nothing in Schlosser and Yakabe which teaches or suggests using compounds (F2) and (F3) together. One of ordinary skill in the art, upon reading Schlosser and Yakabe, would recognize that Schlosser and Yakabe teach away from making this combination. "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." *In re Gurley*, 27 F3d 551, 553, 31 USPQ2d 1130, 1131. (Fed. Cir. 1994) One of ordinary skill in the art upon reading Schlosser would not be motivated to combine (F2) and (F3) because, while Schlosser discloses each of these individually, Schlosser does not disclose the use of a mixture of the two together. Such a person would recognize that while Schlosser teaches that mixtures of compounds of (F2) can be used, and that mixtures of compounds of (F3) can be used, Schlosser does not disclose the use of these two components together. One of ordinary skill in the art, understanding that Schlosser has extensively studied these materials, especially to the extent that they were able to identify synergistic effects, would understand that there would be some reason why Schlosser did not disclose using a mixture of (F2) and (F3). Yakabe was filed as a continuation-in-part application over a year after the Schlosser patent issued. One of ordinary skill in the art, upon reading Yakabe would recognize that the disclosure of Schlosser was available for Yakabe to use, especially in filing a continuation-in-part application, and yet did not disclose the use of (F2) and (F3) in combination. The Office Action acknowledges that Schlosser does not disclose the amounts of the melamine reaction products. There is no suggestion of motivation in either of the cited prior art to modify Schlosser to produce a composition having the claimed amount of each of the components. Therefore, there is no suggestion or motivation, either in the cited reference itself or in the knowledge generally available to

one of ordinary skill in the art, to modify the reference to obtain the invention of the instant application.

To establish a *prima facie* case of obviousness, there must be a reasonable expectation of success. One of ordinary skill in the art would recognize that Schlosser teaches that there is a synergistic effect from their composition, which if taught to have (F2) or (F3). There cannot have been a reasonable expectation of success in obtaining the compositions of the instant claims by modifying the synergistic combination of the prior art. One of ordinary skill in the art would recognize that even minor changes in a single component in a mixture can greatly impact whether the composition maintains a synergistic effect. The instant claims require more than a minor modification over the cited prior art. Therefore there would not have been a reasonable expectation of success in producing the composition of the instant claims based on the teachings in the cited prior art.

To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Neither Schlosser nor Yakabe teach or suggests using compounds (F2) and (F3) together. . The Office Action acknowledges that Schlosser does not disclose the amounts of the melamine reaction products and Yakabe does not cure this. Therefore the cited prior art does not teach the claimed amounts of the various materials as recited in the claims. Therefore, the prior art references do not teach or suggest all the claim limitations.

Applicant respectfully submits that claims 15, 20-26 and 30-35 are not obvious over Schlosser in view of Yakabe. Applicant therefore requests that this rejection be withdrawn.

2. Claims 28 and 29 have been rejected under 35 U.S.C. §103(a) as unpatentable over Schlosser et al. (US 6,255,371) in view of Yakabe et al. (US 2002/0151625) as applied to claims 15, 20-26 and 30-35 and in view of Lewis (Hawley's Condensed Chemical Dictionary) and Pitts et al. (US 3,865,760).

Applicants respectfully submit that claims 28 and 29 are not obvious over Schlosser in view of Yakabe, Lewis and Pitts and that these claims are allowable.

Claims 28 and 29 depend from claim 15. It was shown above that claim 15 is not obvious over Schlosser in view of Yakabe. The teachings of Lewis and Pitts do not overcome the deficiencies of Schlosser and Yakabe noted above.

Applicants respectfully submit that claims 28 and 29 are not obvious over Schlosser in view of Yakabe, Lewis and Pitts and that these claims are allowable.

Applicant therefore requests that this rejection be withdrawn.

3. Claim 27 has been rejected under 35 U.S.C. §103(a) as unpatentable over Schlosser et al. (US 6,255,371) in view of Yakabe et al. (US 2002/0151625) as applied to claims 15, 20-26 and 30-35 and in view of Hanabusa et al. (US 6,433,045).

Applicants respectfully submit that claim 27 is not obvious over Schlosser in view of Yakabe and Hanabusa and that these claims are allowable.

Claim 27 depends from claim 15. It was shown above that claim 15 is not obvious over Schlosser in view of Yakabe. The teachings of Hanabusa do not overcome the deficiencies of Schlosser and Yakabe noted above.

Applicants respectfully submit that claim 27 is not obvious over Schlosser in view of Yakabe and Hanabusa and that these claims are allowable.

Applicant therefore requests that this rejection be withdrawn.

From the foregoing, Applicants earnestly solicit further and favorable action in the form of a Notice of Allowance.

If there are any questions concerning this paper or the application in general, Applicants invite the Examiner to telephone the undersigned at the Examiner's earliest convenience.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: January 20, 2012

By: /Gary D. Mangels, Ph.D./
Gary D. Mangels, Ph.D.
Registration No. 55424